CLAIM AMENDMENTS

1. (currently amended): A recombinant DNA molecule which comprises an expression cassette wherein said expression cassette cómprises a nucleotide sequence encoding a T-type calcium channel α_{1G} subunit, said encoding sequence operably linked to control sequences to effect its expression; wherein said α_{1G} subunit has an amino acid sequence at least 99% homologous to SEQ. ID. No.: 24 or has an amino acid sequence identical to SEQ. ID NO. 37.

2. (currently amended): The DNA molecule of claim 1 wherein said α_1 subunit has the amino acid sequence of ~~SEQ. ID. No.: 24 or~~ SEQ. ID NO. 37.

3. (canceled)

4. (previously presented): Recombinant host cells modified to contain the DNA molecule of claim 1.

5. (original): The cells of claim 4 which are mammalian cells.

6. (currently amended): A method to effect production of a recombinant functional calcium channel which method comprises culturing the cells of claim 4 or 5 under conditions wherein said functional calcium channels are produced.

7-13. (canceled)

14. (currently amended): An isolated nucleic acid molecule which comprises a nucleotide sequence encoding a T-type calcium channel α_{1G} subunit or its complement, wherein said α_{1G} subunit has an amino acid sequence at least 99% homologous to SEQ. ID. No.: 24 or has an amino acid sequence identical to SEQ. ID NO. 37.

15-17. (canceled)

18. (currently amended): The isolated nucleic acid molecule of claim 14, wherein said α_{1G} subunit has the amino acid sequence of ~~SEQ. ID. No.: 24 or~~ SEQ. ID NO. 37.

19. (new): The DNA molecule of claim 1 wherein said α_1 subunit has the amino acid sequence of SEQ ID NO: 24.

20. (new): Recombinant host cells modified to contain the DNA molecule of claim 2.

21. (new): The cells of claim 20 which are mammalian cells.

22. (new): Recombinant host cells modified to contain the DNA molecule of claim 19.

23. (new): The cells of claim 22 which are mammalian cells.

24. (new): A method to effect production of a recombinant functional calcium channel which method comprises culturing the cells of claim 20 or 21 under conditions wherein said functional calcium channels are produced.

25. (new): A method to effect production of a recombinant functional calcium channel which method comprises culturing the cells of claim 22 or 23 under conditions wherein said functional calcium channels are produced.

26. (new): The isolated nucleic acid molecule of claim 14, wherein said α_{1G} subunit has the amino acid sequence of SEQ ID NO: 24.